Development Strategies and LCDS: Contribution to Sustainable Development

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Development Strategies & LCDS:
Contribution to sustainable development

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NAMAcademy: 'Political NAMA Processes'

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Outline:

- LCDS in COP decisions
- Relationship to NAMAs
- Examples: 1) Malawi's LCDS & 2) EU's LCDS
- Rio+20 SD and MDG targets
- Assessment of mitigation actions' contribution to national SD priorities:
  - Development Impact Assessment (DIA) Tool
  - A Co-Benefits Based Approach
  - Exercise

LCDS in COP decisions

The Convention

- “Policies and measures to protect the climate system against human-induced change should be *appropriate* for the specific conditions of each Party and should be *integrated with national development programmes*, taking into account that economic development is essential for adopting measures to address climate change.”

(UNFCCC, Art. 3.4, 1992)

Copenhagen, COP-15:

- The idea of a LCDS was first introduced in Copenhagen at COP-15:

"We should cooperate in achieving the peaking of global and national emissions as soon as possible, recognizing that the time frame for peaking will be longer in developing countries and bearing in mind that social and economic development and poverty eradication are the first and overriding priorities of developing countries and that a low-emission development strategy is indispensable to sustainable development"

(Source: 2/CP.15, paragraph 2)

Cancún, COP-16

The idea of a LCDS is further developed as relevant for a 'paradigm shift' to SD and to be mandatory in developed countries and voluntary in developing countries:

- *§10. Realizes that addressing climate change requires a paradigm shift towards building a low-carbon society that offers substantial opportunities and ensures continued high growth and sustainable development,*
- *§ 45. Further decides that developed countries should develop low-carbon development strategies or plans;*
- *§ 65. Encourages developing countries to develop low-carbon development strategies or plans in the context of sustainable development;*

Source: (1/CP.16, § 10, 45 & 65)

The role of a LCDS

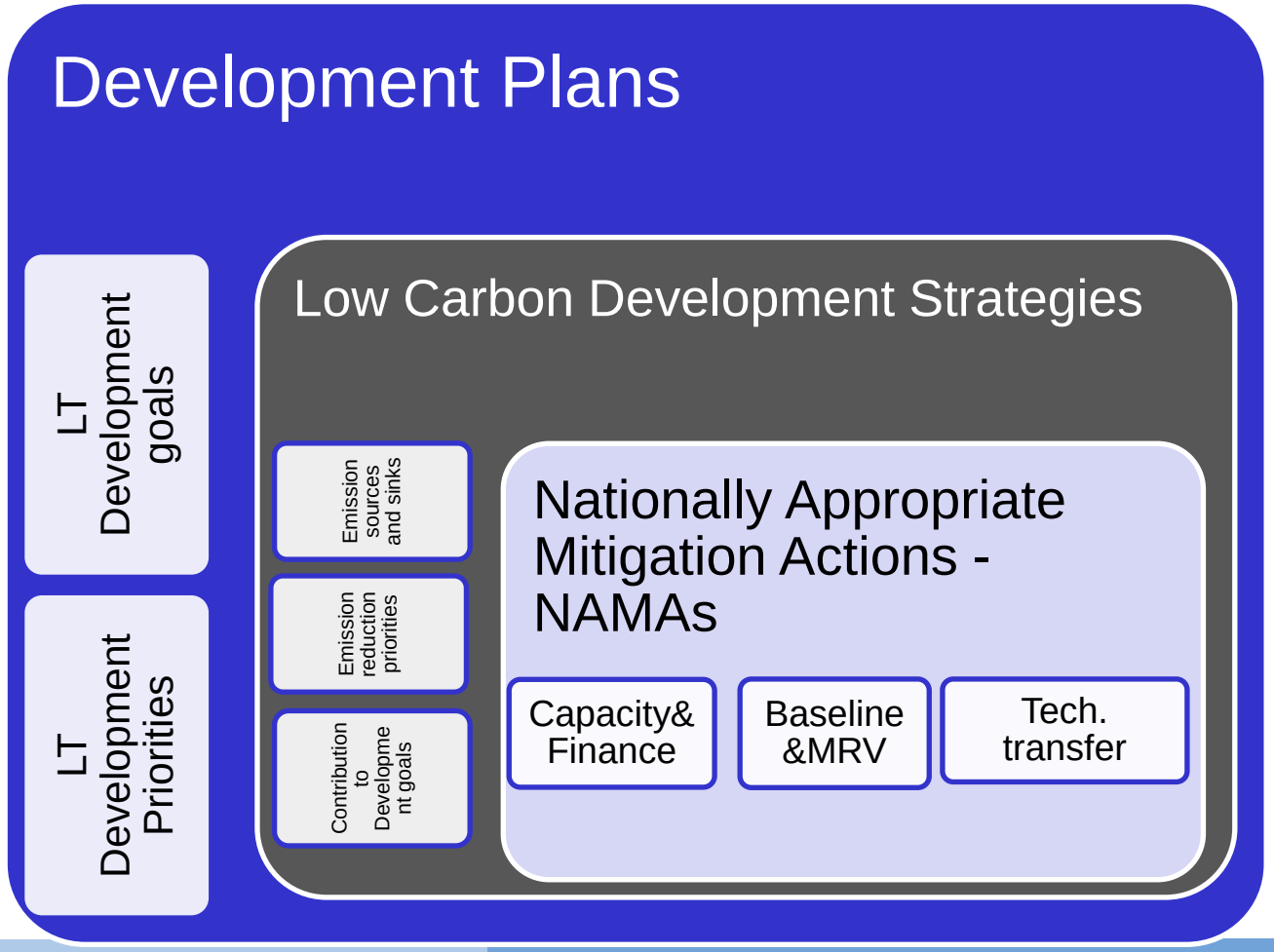
- There is no international definition of a LCDS
- The aim of a LCDS is to mainstream mitigation actions into development planning to promote a low-carbon and sustainable pathway
- Elements of a LCDS are likely to include options and prioritized actions for mitigation in the mid (2020)- and long term (2050)
- An LCDS can provide a coherent framework to MRV NAMAs SD and climate benefits towards transformational change
- However, a LCDS is voluntary and NAMAs may or may not be framed in a strategic way

Relationship to NAMAs

Low Carbon Development Strategies - relationship to NAMAs

- Defining a strategy in context of medium to long term sustainable development plans:
  - Decouple economic growth from GHG emission growth
  - Reduce the carbon intensity of the economy
  - Leapfrog the high-carbon development path of today's business-as-usual trajectory

  in the context of...



Sustainable Development

What is a LEDS?

A Low-Emission Development Strategy (LEDS) is a national, high-level, comprehensive, long-term strategy, developed by domestic stakeholders, which aims at decoupling economic growth and social development from greenhouse gas (GHG) emissions growth.

- A LEDS and individual NAMAs should build upon existing national strategies and processes (see examples in the illustration)

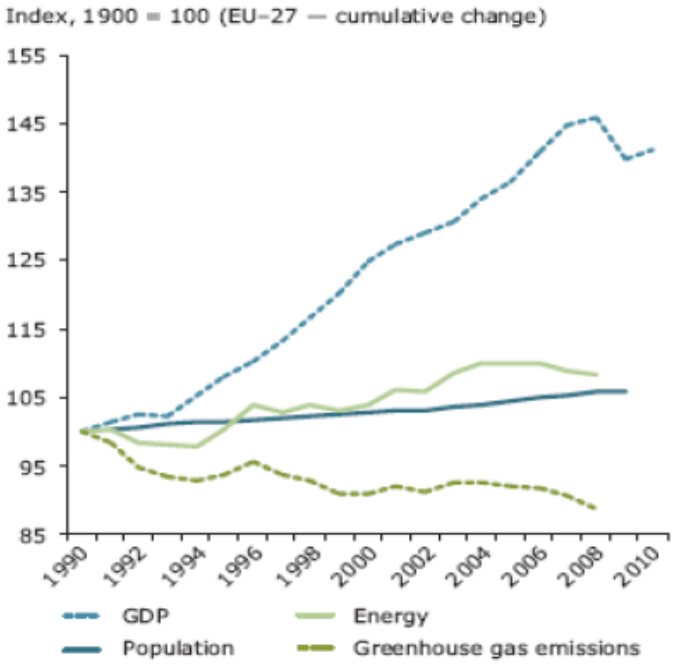
Source: GIZ NAMA tool, 2013

Examples of LCDS

EU roadmap for moving to a low carbon economy in 2050

- Target: 80% reduction by 2050. In line with IPCC that developed countries as a group shall reduce greenhouse gas emissions by 80-95% by 2050 compared to 1990 to stay below 2 degrees of warming
- Efficient pathway:
  - -25% in 2020
  - -40% in 2030
  - -60% in 2040

GHG emissions are decoupled from growth

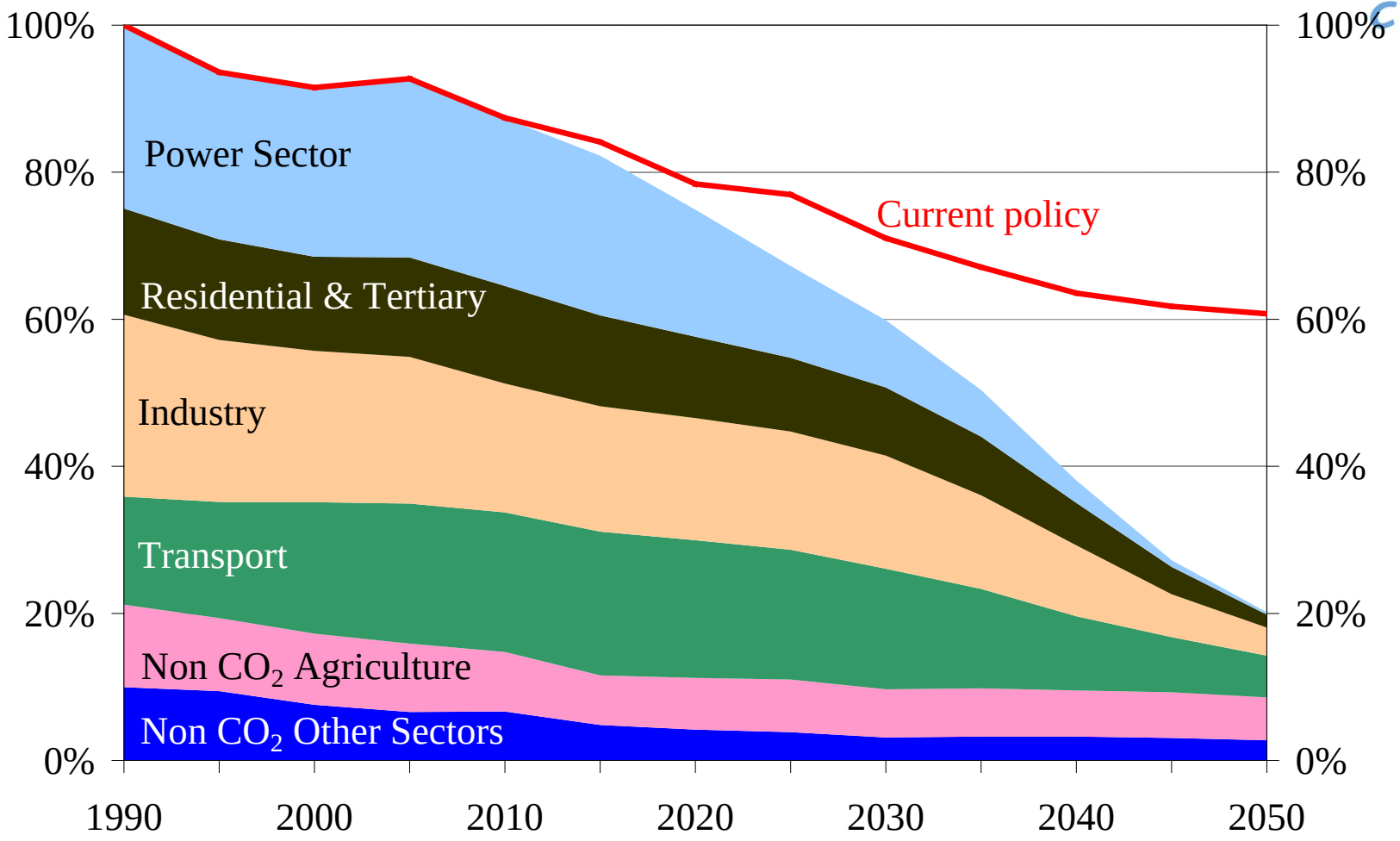


1990-2010:

- **GDP: +40%**
- **Manufacturing: +34%**
- **Emissions: - 16%**
  (in 2009, includes aviation)

Source: Presentation by Connie Hedegaard, Commissioner for Climate Action European Commission, Stakeholder Conference, Brussels, 17 March 2011,

EU GHG emissions towards an 80% domestic reduction (100% =1990)



Source: European Comission, Brussels, 8.3.2011, COM(2011) 112 final.

The low-carbon pathway

- Additional investment: 1.5% of GDP on top of current 19%. But,
  - Increase domestic investments and value added for manufacturing industries
  - Fuel cost savings
  - Halves imports by 2050
  - Net job creation: 1.5 million in 2020
  - Air quality and health benefits
- Energy efficiency is the single most important contribution, especially until 2020
  - Current policies only result in 10% energy efficiency improvement
  - roadmap confirms key role of efficiency up to 2020 and beyond
- Efforts towards 20% efficiency target would deliver 25% GHG reductions

Table 1: Sectoral reductions

GHG reductions compared to 1990	2005	2030	2050
Total	-7%	-40 to -44%	-79 to -82%
Sectors			
Power (CO_2)	-7%	-54 to -68%	-93 to -99%
Industry (CO_2)	-20%	-34 to -40%	-83 to -87%
Transport (incl. CO2 aviation, excl. maritime)	+30%	+20 to -9%	-54 to -67%
Residential and services (CO_2)	-12%	-37 to -53%	-88 to-91%
Agriculture (non-CO_2)	-20%	-36 to -37%	-42 to -49%
Other non-CO_2 emissions	-30%	-72 to -73%	-70 to -78%

Source: European Comission, Brussels, 8.3.2011, COM(2011) 112 final.

The road towards a LCDS in Malawi

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Malawi Economic and Social Context:

- Malawi population about 13 million people
- Population growth rate of about 1.9% per annum
- Forests and woodlands provide 90% of Malawi's energy
- Agriculture accounts for: 43% of GDP, 85% of the labor force, 90% of export revenues
- Industrial sector remains in its infancy - increasing the mining & manufacturing capacity is a key priority now
- Unreliable energy supply: frequent blackouts due to insufficient generation capacity
- Energy demand is projected to double in the next five years as compared to 2000

Source: Evans Njewa Environmental Affairs Department, Malawi, May 18, 2012 UNFCCC Workshop

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Malawi Policy Context: setting the framework for a LCDS

- **National Environmental Action Plan 1994 (NEAP, 1994)**
  - Recognizes climate change as one of the issue affecting environmental sustainability
  - Aims to ensure sustainable development as envisioned by the Vision 2020 since 1998

1994

- **National Environmental Policy (NEP, 1996 revised 2004)**
  - Provides a framework for policies related to climate change
- **The Environmental Management Act - to enforce the NEP**

1996 (rev. 2004)

- **Vision 2020**
  - Provides a framework for national development, policies and strategies
  - Emphasizes sustainable development
- **National Sustainable and Renewable Energy Programme (NSREP)**
  - Aims at promoting the use of RES

1998

- **Malawi Growth & Development Strategy 2006 -2011 (MGDS); MGDS II, 2011 - 2016**
  - Recognizes climate change as a key priority

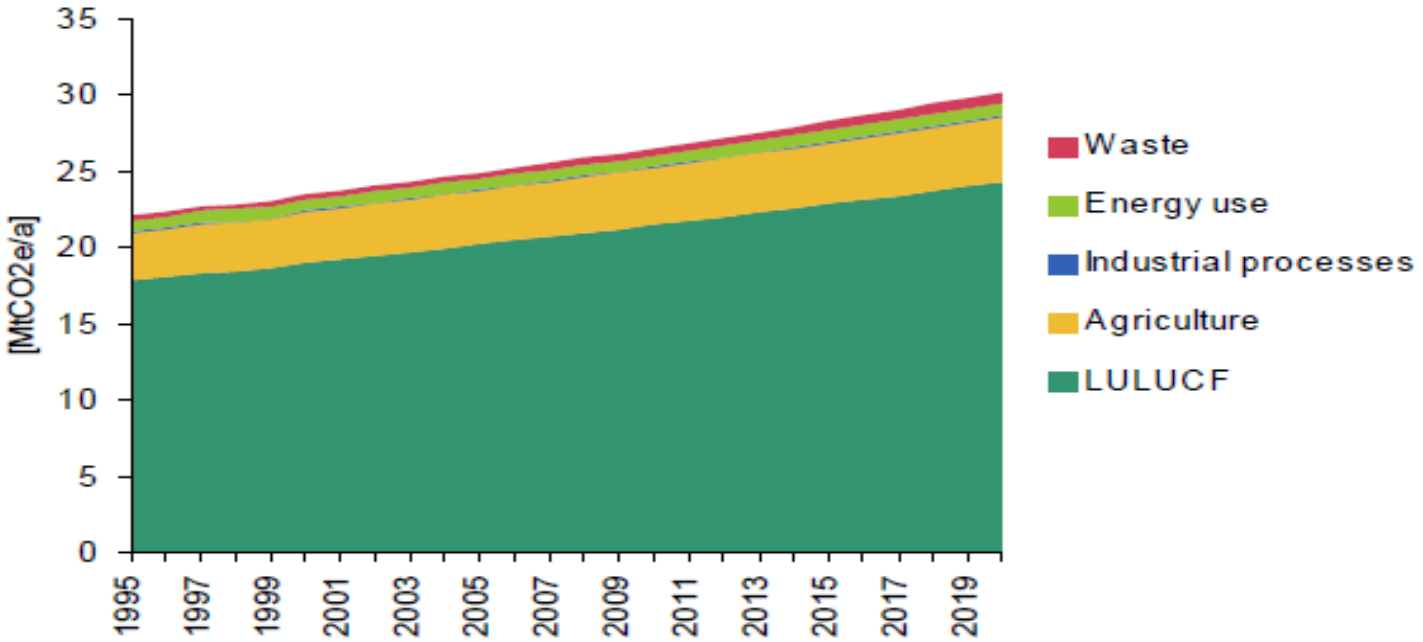
2006

- **REDD strategy -** under development
- **National Climate change investment plan**
- ***National Climate change policy development***

2012

Source: Evans Njewa, Environmental Affairs Department, May 18, 2012, UNFCCC Workshop

Emission projections until 2020 – BAU



Data source: Government of Malawi, 2008. BAU starting in 2001, based on simple extrapolation

Source: Evans Njewa, Environmental Affairs Department, May 18, 2012, UNFCCC Workshop

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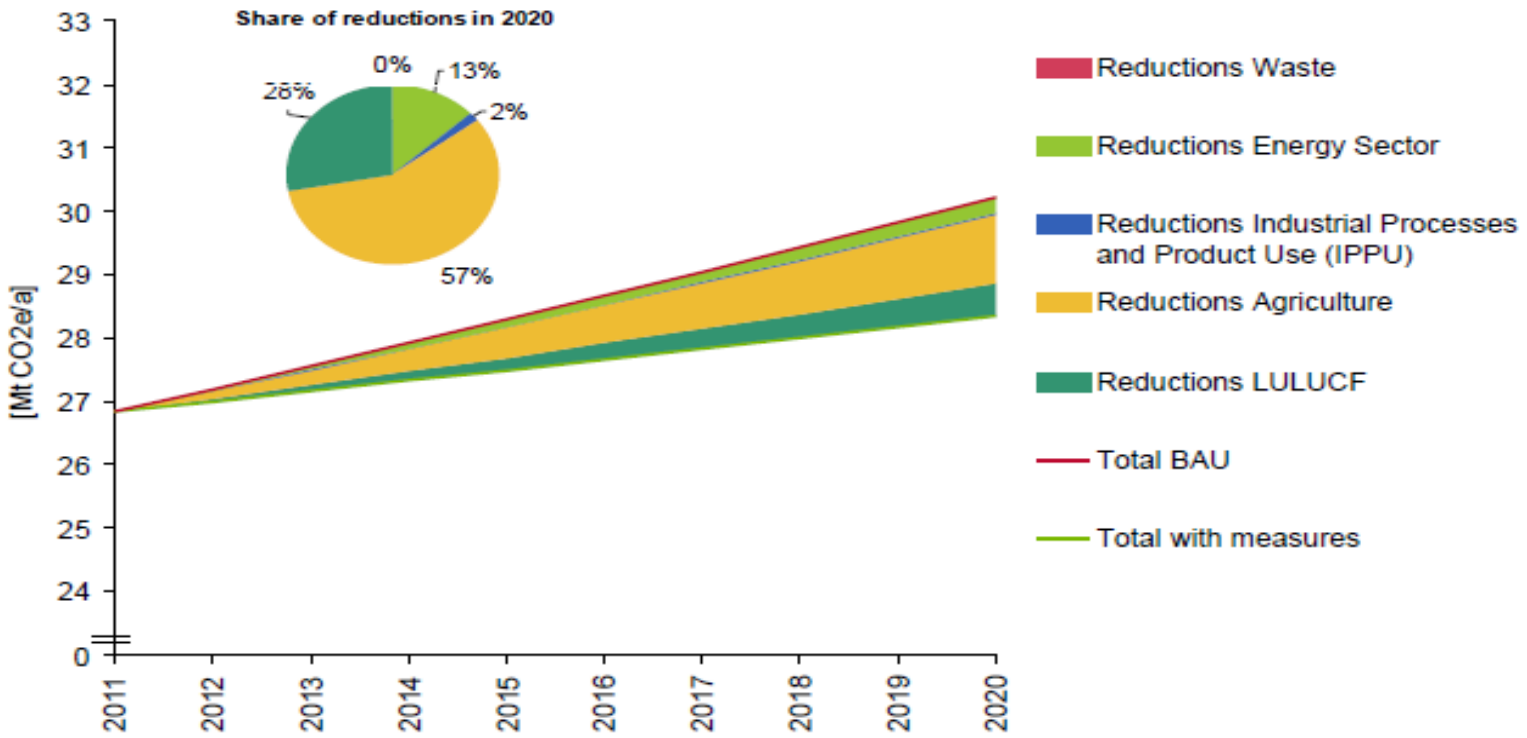
Possible reductions from proposed NAMAs



Data source: Government of Malawi, 2008. BAU simple extrapolation, reductions calculated with LEAP model

Source: Evans Njewa, Environmental Affairs Department, May 18, 2012, UNFCCC Workshop

Next steps

- Prepare more detailed concept notes for NAMAs so that they can be implemented as pilot NAMAs. Likely to be in the energy, agriculture, forestry and waste sectors because:
  - High replicability potential
  - Entry points for business investments
- Seek international support for pilots (cost estimates to be refined)
- Continuation of stakeholders' consultation process on NAMAs (started in November 2011)
- Implement pilot NAMAs to learn:
  - Implement more NAMAs
  - Build robust MRV system, possibly also for Biennial Update Report (2014)

Source: Evans Njewa, Environmental Affairs Department, May 18, 2012, UNFCCC Workshop

Rio+20 SD and MDG targets

Global goals for sustainable development

- Three processes to define global goals for the *environment, development and climate* are running in parallel until 2015:
  - Sustainable Development Goals (SDGs) – Rio+20 process
  - Millennium Development Goals (MDGs) – UN Post-2015 Development Agenda
  - A New Climate Agreement – UNFCCC

- The three processes are related but institutionally separate and aim to inspire actions and targets for implementation at national level supported by international institutions

The UN Post-2015 Development Agenda

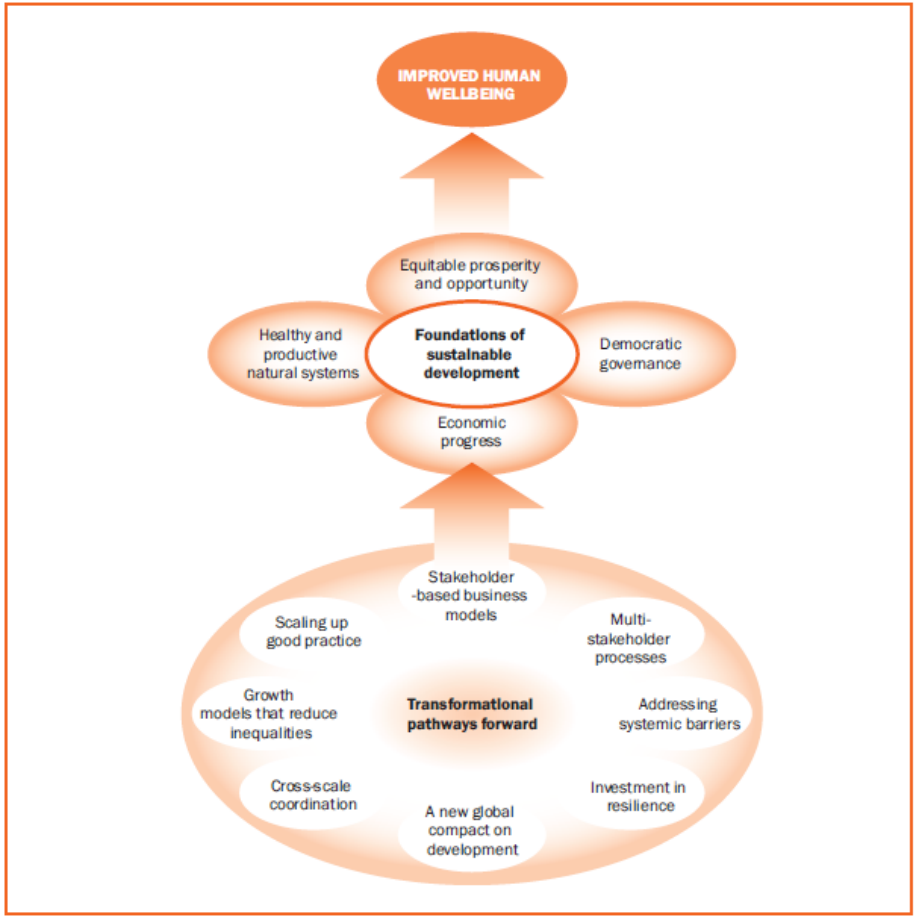
- In July 2012, Secretary-General Ban Ki-moon announced a High-level Panel to advise on the global development framework beyond 2015
- The post-2015 agenda is linked to the outcome of “Rio+20” on SD that took place in June 2012 in Rio de Janeiro, Brazil.
- The outcome document of Rio+20, “The Future We Want,” called for the creation of an intergovernmental Open Working Group (OWG)on Sustainable Development Goals (SDGs)
- The work of both the High-level Panel and the Open Working Group will strive to form a single development framework with poverty reduction and sustainable development at its core.
- The High Level Panel released a report “A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development,” in May 2013. Its sets a universal agenda to eradicate extreme poverty from the face of the earth by 2030, and deliver on the promise of sustainable development

UNEP Post-2015 Proposal

- ‘Embedding the Environment in Sustainable Development Goals’ (UNEP, July 2013) – an integrated approach with six criteria:
- Approach: the three pillars of SD are *integrated* into the six criteria.
  1. Linkage with development goals
  2. Decoupling of growth from environmental degradation
  3. Avoid irreversible changes to the global environment
  4. Include current global goals and targets into SDGs
  5. Goals to be scientifically credible and verifiable
  6. Progress must be ‘trackable’ – indicators measured

Transformational change for SD

- Common to the three processes is that they aspire to achieve ‘transformational change’ – see figure
- The UN High-level Panel identifies five shifts:
  - Leave No One Behind
  - Put Sustainable Development at the Core
  - Transform Economies for Jobs and Inclusive Growth
  - Build Peace and Effective, Open and Accountable Institutions for All
  - Forge a New Global Partnership



Source: Independent Research Forum (IRF) on a Post-2015 Sustainable Development Agenda, March 2013

Development Impact Assessment
- DIA Tool

Background for DIA Visual Tool

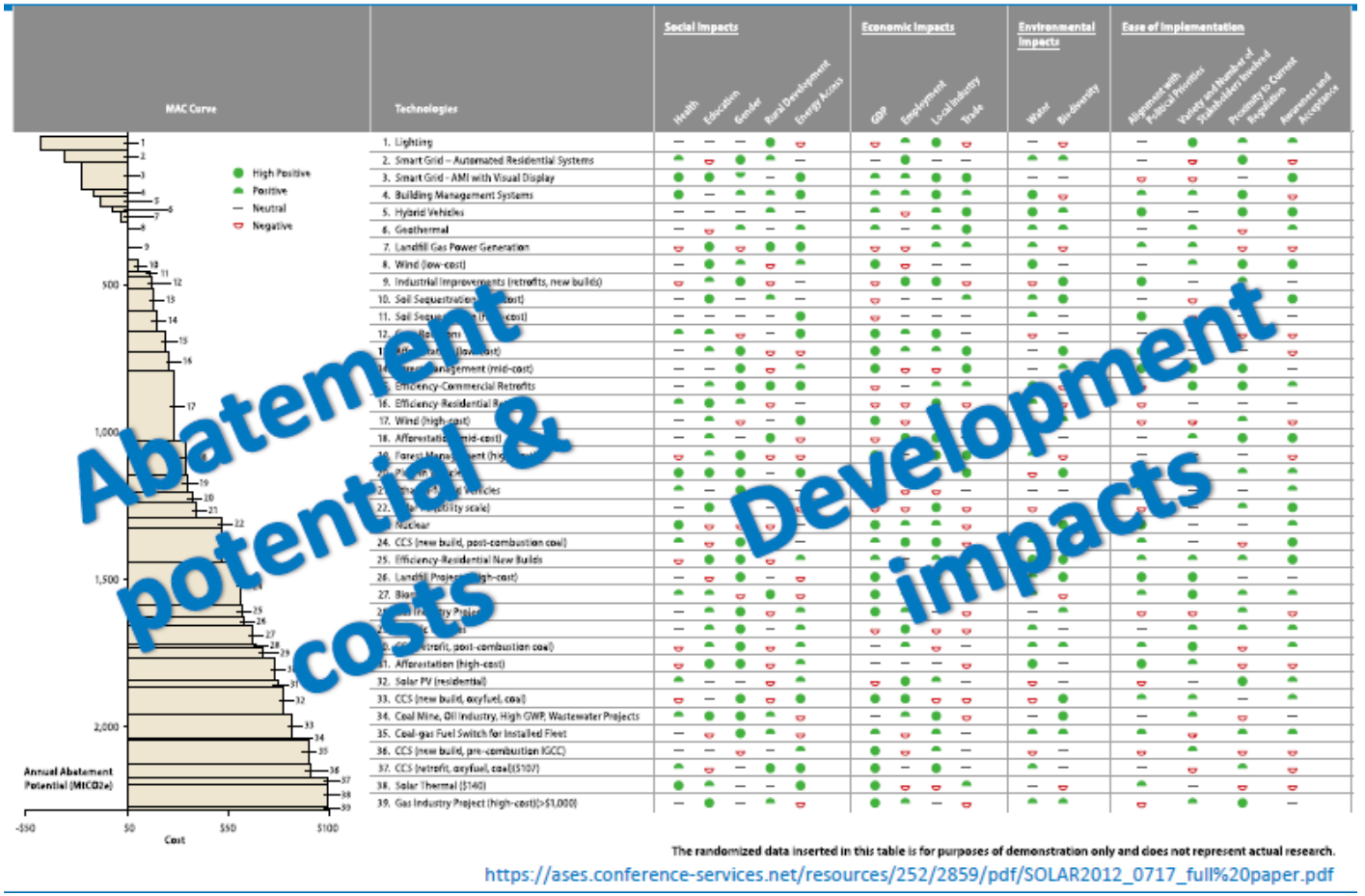
Objectives:

- Assess development impacts of low-emission strategies
- Communicate the development impacts of mitigation strategies
- Facilitate decision making

Methodological aspects:

- Visual tool to be complemented by other analytical approaches, e.g. multi-criteria assessment methods
- Highly participatory
- Mobilise knowledge in ‘people’s heads’ - vs. need for ‘audit trail’ of supporting data and reasoning
- Motivate people to develop a balanced view of combined development and climate benefits

DIA Visual Tool

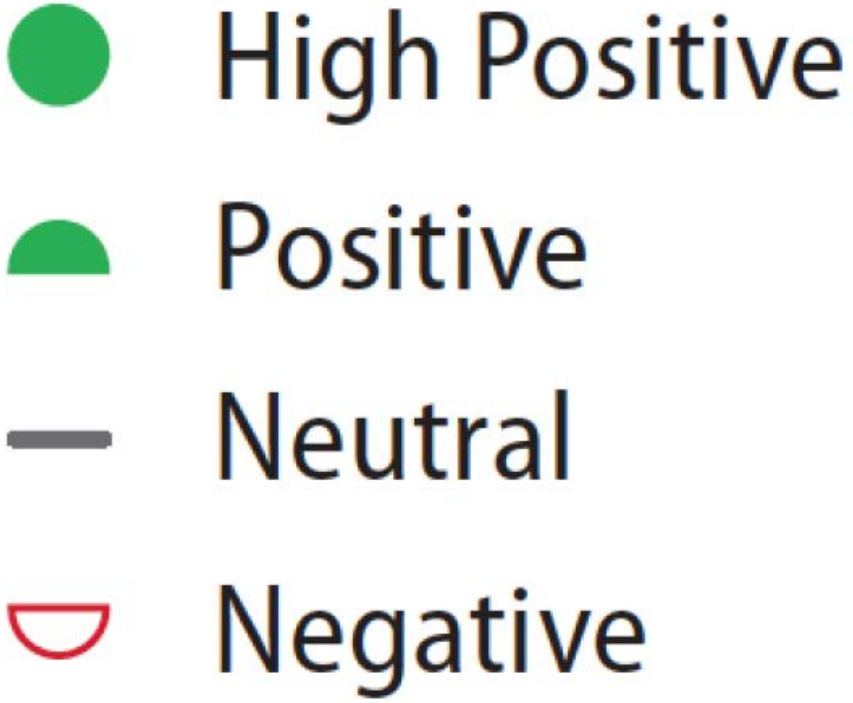


The randomized data inserted in this table is for purposes of demonstration only and does not represent actual research.

https://ases.conference-services.net/resources/252/2859/pdf/SOLAR2012_0717_full%20paper.pdf

Source: NREL, LEDS GP Webinar, 6 September 2012

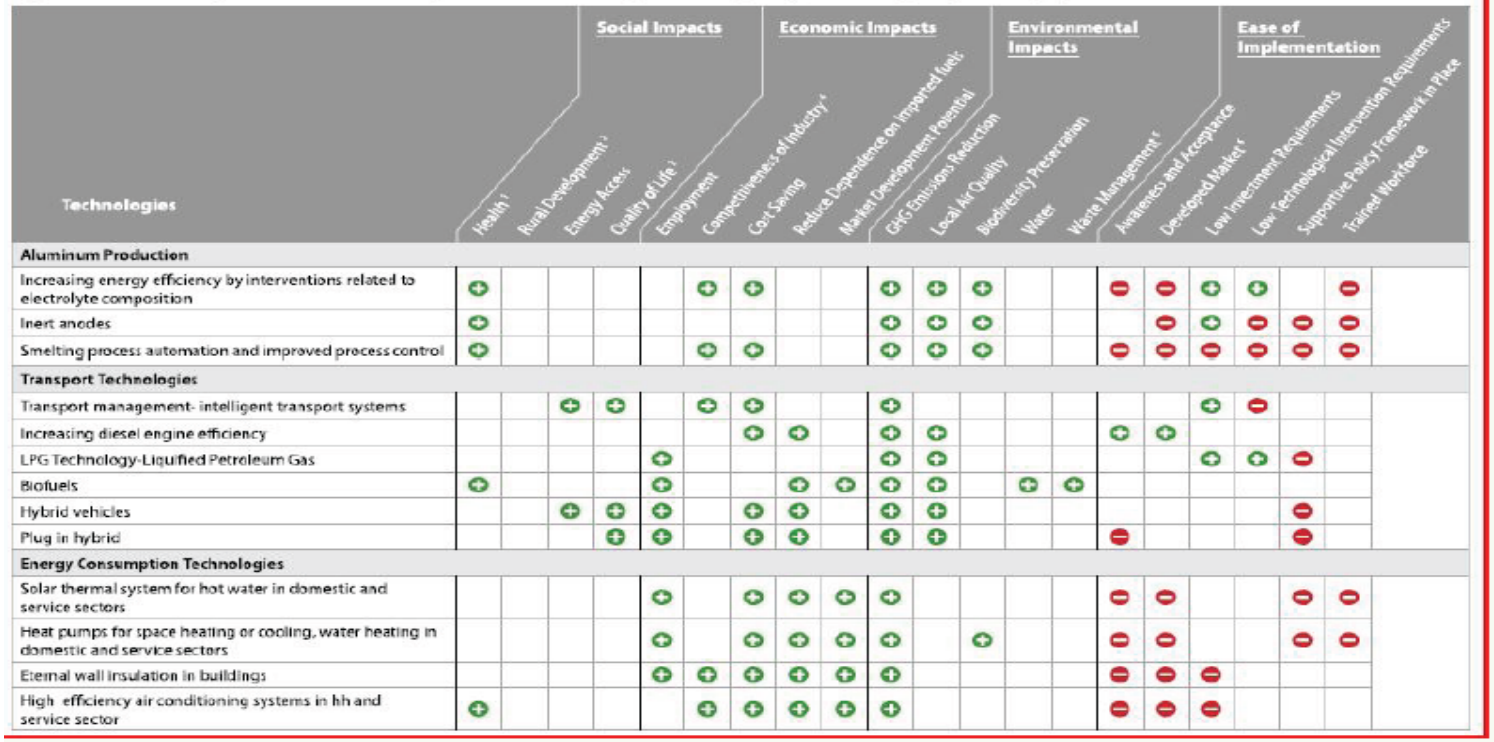
Scoring – stakeholder assessment



Example from Montenegro

Cowlin, Cochran, Cox, and Davidson (NREL) and Vd Gaast (JIN)
http://www.nrel.gov/docs/fy12osti/54487.pdf

Fig. 2. First iteration of pilot visual for Montenegro based on technology sheets for priority sectors. Figure spans two pages.



Technologies	Health	Rural Development	Energy Access	Quality of Life	Employment	Competitiveness of Industry	Cost Saving	Reduce Dependence on Imported Fuels	Market Development Potential	GHG Emissions Reduction	Local Air Quality	Biodiversity Preservation	Water	Waste Management	Awareness and Acceptance	Developed Market	Low Investment Requirements	Low Technological Intervention Requirements	Supportive Policy Framework in Place	Trained Workforce
Aluminum Production																				
Increasing energy efficiency by interventions related to electrolyte composition	+					+	+			+	+	+			−	−	+	+		−
Inert anodes	+									+	+	+				−	+	−	−	−
Smelting process automation and improved process control	+					+	+			+	+	+			−	−	−	−	−	−
Transport Technologies																				
Transport management- intelligent transport systems			+	+		+	+			+							+	−		
Increasing diesel engine efficiency							+	+		+	+				+	+				
LPG Technology-Liquified Petroleum Gas					+					+	+						+	+	−	
Biofuels	+				+			+	+	+	+		+	+						
Hybrid vehicles			+	+	+		+	+		+	+								−	
Plug in hybrid				+	+		+	+		+	+				−				−	
Energy Consumption Technologies																				
Solar thermal system for hot water in domestic and service sectors					+		+	+	+	+					−	−			−	−
Heat pumps for space heating or cooling, water heating in domestic and service sectors					+		+	+	+	+		+			−	−			−	−
Eternal wall insulation in buildings					+	+	+	+	+	+					−	−	−			
High efficiency air conditioning systems in hh and service sector	+					+	+	+	+	+					−	−	−			

9/7/12

Wytze van der Gaast - JI Network - jin@jiqweb.org

Source: Wytze van der Gaast JIN Netherlands, LEDS-GP Webinar 6 September 2012

A Co-Benefits Based Approach

Objectives

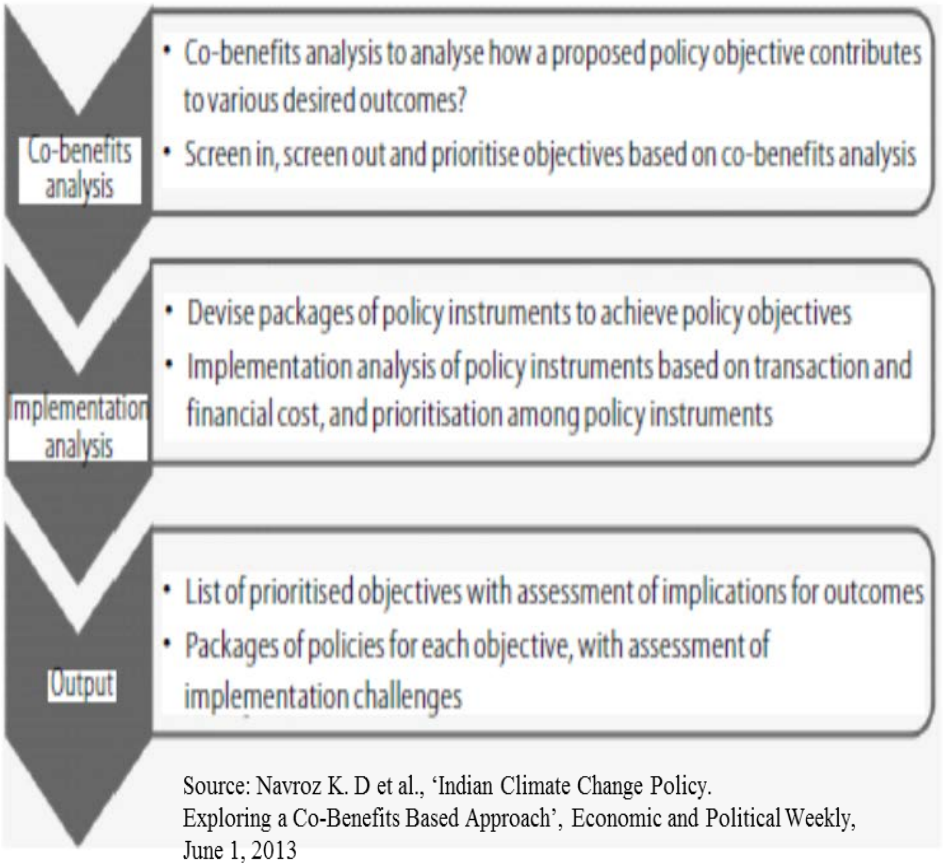
- Align climate mitigation strategies with national development goals

- Develop a decision-making framework to assess benefits and impacts of climate policy objectives (such as mitigation actions, policies and strategies)

Methodology

Multi-criteria assessment (MCA):

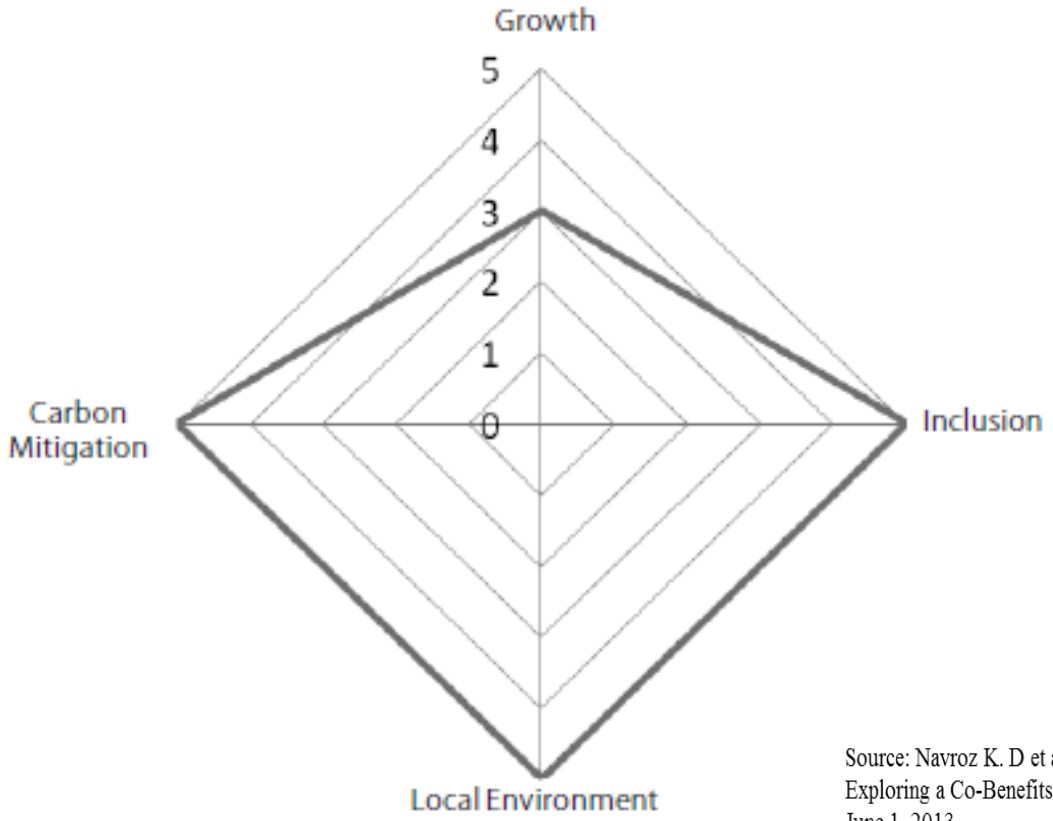
- Two steps – see figure
- Outcomes of co-benefit analysis to be based on national development priorities, a minimum of four policy objectives:
  1. Economic growth
  2. Inclusion
  3. Local environment
  4. GHG mitigation



Source: Navroz K. D et al., 'Indian Climate Change Policy. Exploring a Co-Benefits Based Approach', Economic and Political Weekly, June 1, 2013

Example – co-benefit assessment

Figure 1: Graphical Representation of Modal Shift in Urban Transport



Source: Navroz K. D et al., 'Indian Climate Change Policy. Exploring a Co-Benefits Based Approach', Economic and Political Weekly, June 1, 2013

Example – cntd.

Table 1: Modal Shift in Urban Transport as a Policy Objective

Description of Policy Objective

- Objective: Induce a modal shift in urban transport from private vehicles to public and non-motorised transport
- Policy actors: Urban local bodies, state governments and Government of India
- Time-scale: Medium term

Co-benefit		Description of Benefit or Cost	Qualitative Grading 1 to 5
Growth	Impacts on aggregate demand and efficiency of resource use	• Reduction in demand for automobiles and two-wheelers, partially compensated by increase in demand for buses and bicycles	3
		• Reduced congestion, reduced fatalities and injuries (Woodcock et al 2009)	
	Creation of jobs	• Reduction in employment in automobile and two-wheeler segment, partially compensated by increased employment in bus and bicycle segments.	
	Energy security	• Increased energy security due to reduced petroleum demand and reduced imports (Planning Commission 2011a,b).	
Inclusion	Improving outcomes for the poorest	Significantly improves access to transport of citizens with lower incomes, since unit costs of public and non-motorised modes are lower than private modes.	5
	Reducing disparities in distribution	Helps in reducing disparities as more people start using similar modes	
Local Environment	Air	• Public transport has lower tail-pipe emissions per passenger-km than cars and two-wheelers, while non-motorised transport has zero emissions (MoPNG 2003), leading to improved health.	5
	Water	• No impact on water.	
	Land	• Reduced need for paved surfaces relative to private transport systems, reducing pressure on scarce urban land.	
Carbon mitigation		• Net lower GHG emissions per passenger-km (Sperling et al 2004).	5
		• Approximately 24 million tonnes of CO_2 can be saved in 2020 if this is pursued aggressively (Planning Commission 2011a).	5
Total (4-20)			18
Interlinkages with other policy objectives, +ve or –ve		A modal shift in urban transport would result in a reduced need for fuels overall, and therefore potentially reduce the need for biofuels. It would have no impact on domestic appliance efficiency improvement.	

In the context of a complete analysis across multiple policy objectives, there would be many additional linkages to examine.

Exercise

Identify national development priorities for LCDS

Steps:

1. Identify the key national development frameworks in your country relevant to LCDS (individually – 10 minutes)
2. Discuss the appropriate number of policy objectives/co-benefits relevant to assess the SD impacts of a LCDS in your country(ies) (groups of 2-3 people – 15 minutes)
3. Report to plenum the choice of national co-benefits/development priorities for SD assessment

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Thanks!

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